IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Appln. Of:	ANDRE et al.
Serial No.:	09/830,380
Filed:	April 25, 2001
For:	Thin Layer of Hafnium Oxide and Deposit Process
Group:	1774
Examiner:	DICUS, TAMRA

DOCKET: BREV 13186

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL

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TABLE OF CONTENTS

Page

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TABLE OF CASES

Page

TABLE OF AUTHORITIES

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APPELLANTS' BRIEF ON APPEAL

This Brief is being filed in support of Appellant's Appeal from the Final Rejection by the Primary Examiner to the Board of Appeals and Interferences. A Notice of Appeal was timely filed under Certificate of Mailing on June 21, 2005.

REAL PARTY IN INTEREST

The Real Party in Interest in this Appeal is Commissariat A L'Energie Atomique, a French corporation having its principal place of business at 31-33 Rue de la Federation, 75752, Paris 15EME, France. The Application has been assigned to Commissariat A L'Energie Atomique by the inventors Bernard Andre, Jean Dijon, and Brigitte Rafin, and the Assignment recorded in the U.S. Patent and Trademark Office on April 25, 2001, at Reel 011832, Frame 0050.

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RELATED APPEALS AND INTERFERENCES

To the best of the knowledge of the undersigned attorney and the Appellants, there are no other appeals or interferences that would directly affect, or be directly affected by, or have a bearing on, the Board's decision in the present Appeal.

STATUS OF THE CLAIMS

Claims 1-13 have been canceled. Claims 14-23 stand finally rejected and are on Appeal. The claims on Appeal are set forth in **Appendix A, Tab 1** attached hereto.

STATUS OF AMENDMENTS

Appellants' Amendment F under Rule 116 was entered in this case, but it was deemed not to place the Application in order for allowance.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a thin layer material consisting essentially of a thin amorphous low density layer or layers of hafnium oxide. The material is formed by a non-energy imparting deposition process, i.e. a process by which the material is deposited without imparting energy to the substrate, such that the substrate is not heated or pre-heated. That is to say, conventionally used energy imparting deposition processes such as ion bombardment or ion acceleration are avoided (Specification, page 12, lines 1-15). By using a non-energy imparting process, Appellants' materials are superior to prior art materials which had problems of inclusion of aggregated impurities that limit the ability of the coating to withstand laser fluxes. The resulting deposit is a natural deposition through the simple condensation of the hafnium oxide on a substrate. The layer formed is amorphous—non-crystalline—and has a density less than 8 g/cm^3 (Specification, page 11, lines 14-29; Claim 14).

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Thus, the present invention, in one aspect relates to a thin layer material consisting essentially of amorphous hafnium oxide (Fig. 1, cipher 2) having a density less than 8 g/cm^3.

Another aspect of the invention consists of a stack (Fig. 4, cipher 4) of thin layers (2,3) in which at least one of the layers (2) consists essentially of amorphous hafnium oxide having a density less than 8 g/cm^3.

These low density layers of amorphous hafnia yield very high resistance to laser flux. The hafnia low density amorphous hafnium oxide deposit according to the invention, is able to withstand a laser flux higher than 15 $Joules/cm^2$ at a wavelength of 1.06 nm with impulses of 3 ns and a recurrence frequency of 10 Hz (Specification, page 12, lines 16-25). This represents a significant advance over the prior art, which under the same conditions, could withstand a maximum of 3 to 5 $Joules/cm^2$ (Specification, page 12, lines 16-25).

Yet another aspect of the invention consists of an optical component (Fig.6, cipher 6) having on at least one surface (1) at least one low density layer (2) consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3.

Independent claim 14 is directed specifically to a thin layer material consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3 (see Fig. 1).

Independent claim 15 is directed to a stack of thin layers, in which the stack contains at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3 (see Fig. 4).

Independent claim 20 is directed to an optical component having on at least one surface at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3 (see Fig. 6).

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GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether the rejection of claims 14-23 under 35 U.S.C. 103(a) as being unpatentable over EP 0486475 A2 to Ando et al. is in error. In particular, the issue on appeal is whether the Examiner has given proper consideration and weight to the "consisting essentially of" claim language of the claims in Appeal.

ARGUMENT

I. THE REJECTION OF CLAIMS 14-23 AS OBVIOUS OVER ANDO ET AL. IS IN ERROR.

A. Ando et al. Neither Teaches nor Suggests the Claimed Invention.

Each of the independent claims 14, 15, and 20 on appeal are directed to a product requiring at least one layer of material consisting essentially of amorphous hafnium oxide having a density of less than 8 gm/cm^3. Independent claim 14 specifies "A thin layer material consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3". Independent claim 15 is directed to a stack of thin materials in which the stack includes "at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3". And independent claim 20 is directed to an optical component having on at least one surface "at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3". Thus, all of the independent claims 14, 15 and 20 have the same common and essential limitation, namely, of a layer "consisting essentially of amorphous hafnium oxide having a density less than 8 g/cm^3".

There in no teaching or suggestion within the four corners of Ando et al. ("Ando") of amorphous hafnium oxide layers having a density less than 8 g/cm^3. Moreover, this distinction is more than merely academic. The low-density hafnium oxide layers of the present invention can withstand laser fluxes greater than 15 Joules/cm^2.

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In fact, as stated in Appellants' specification, the known prior art is unable to resist laser fluxes of stronger than 3 to 5 Joules/cm^2.

B. The Rejection of the Claims as Obvious form Ando et al. is inconsistent with an earlier rejection in which the Examiner Considered it Necessary to Combine Ando et al. with Two Other References to Make Out a Case of Obviousness.

Appellants have already overcome a rejection the U.S. counterpart to Ando et al, of U.S. Patent No. 5,399,435 to Ando et al. in combination with two other U.S. Patents (5,670,248 to Lazarov et al., and 5,623,375 to Floch et al).[1] It is both illogical and inconsistent of the Examiner to now reject the claims as obvious from Ando et al. by itself, when the Examiner previously considered it necessary to combine two other prior art references with Ando et al. to make out a case of obviousness, particularly as the claims on appeal are narrower than the claims that were the subject of the February 26, 2003 Office Action (See **Appendix A, tab 2**).

C. Ando et al. Teaches Away From the Claimed Invention.

Moreover Ando actually teaches away from the present invention. Ando et al. teaches (1) an oxide without significant amounts of boron and/or silicon will not be amorphous; (2) a deposition method that would preclude layers with densities of 8gm/cm^3 or less; and (3) eliminating the boron and/or silicon hinders the abrasion and scratch resistance of the layer—the precise utility and novelty of the Ando et al. invention.

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[1] U.S. Patent 5,399,435 to Ando et al. is the U.S. counterpart to European Patent No. 0486742. The copy of '435 U.S. Patent to Ando and a copy of the Office Action of February 26, 2003 in which the Examiner combined the '435 U.S. Patent to Ando et al. with two other U.S. Patents to make out a case for obviousness are attached hereto as **Appendix A Tabs 2 and 3**, respectively.

D. The Addition of Boron or Silicon Materially Affects the Novel Characteristics of the HfO_2 layer.

Ando et al. teaches layers composed of a mixture of "B, Si and . . . an oxide of Zr, Ti, Hf, Sn, Ta, [or] In." By contrast, Appellants' claims all require a layer consisting essentially of amorphous hafnium oxide having a density of less than 8 gm/cm^3. In the Final Rejection, the Examiner argues that "the prior art provides no indication that the material [additional elements (boron and silicon) taught by Ando et al.] would not function any different from the claimed invention" and that "Applicant has not clearly shown for the record that the additional components would materially affect the claimed invention". (Final Action, page 3, first paragraph).

Yet, according to Ando et al., "a crystalline film tends to form when the content of B in the film is small, and an amorphous film tends to form when the content of B is large." (Ando et al., page 5, lines 54-55; further stating that increased boron content is beneficial.). Not only does this teach away from Appellants invention (where an amorphous layer is obtained by avoiding additional elements), it would lead to the destruction of Appellants' layer. Appellants' specification specifically states that, "the presence of metallic impurities [e.g., boron] under aggregate form in the coatings [causes] . . . a local transformation of the layers rendering them absorbent to laser radiation at 1.06 μm . . . and [therefore causing] the destruction of the coating."[2] The high boron amorphous layer taught by Ando et al. would be destroyed by a high-flux laser and thus, the addition of boron would affect the basic characteristics of the claimed invention.

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[2] Specification, page 9, lines 2-9 quoting J. Dijon et al., "Nano absorbing center: a key point in laser damage of thin films." Proc. of the 28th Annual Boulder Damage Symposium, SPIE Vol. 2996 (1996).

E. The Examiner Has Not Given Proper Consideration to the Claim Language

As this board is well aware, claims that use the "consisting essentially of" preamble are limited to the materials specified in the claim and exclude those that materially affect the basic and novel characteristics of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). In the instant case, the very prior art the Examiner relies on to make out a case of obviousness specifically teaches that the addition of boron or silicon would materially affect the basic and novel characteristics of the amorphous HfO_2 layer.

F. A Density of 8 gm/cm^3 Could Not Be Obtained with Ando et al.'s Method.

Moreover, in order to obtain the novel densities of the claimed products, the deposition process must be energy free—i.e., the substrate should not be heated or energized because "when energy is input, the deposited layers are compacted and thus the density is increased." (Specification, page 10, lines 20-22). In other words, if the deposition process is not energy free, a hafnium oxide layer with a density less than 8 gm/cm^3 cannot be created.

The Examiner incorrectly asserts that "the prior art [i.e. Ando et al.] does not heat a substrate." (Final Action penultimate paragraph on page 4). To the contrary, Ando et al. specifically teaches that "[d]uring the film-forming operation, the substrate is heated to improve the abrasion resistance." (Ando et al., page 2, lines 24-25). Ando et al. also teaches forming "[t]he amorphous oxide film ... heating and evaporating the tablet by means of an electron beam. (Page 9, lines 24-26). As noted supra, following the teachings of Ando et al., one would not obtain an amorphous layer of hafnium oxide with a density less than 8 gm/cm^3.

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G. The Examiner's Proposed Modification Makes Ando Unsatisfactory for its Intended Purpose.

The Federal Circuit has stated that if a proposed modification to a prior art invention makes it unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed Cir. 1984). Here, modifying Ando et al. by deleting the boron would render it nonfunctional for its intended purpose of hindering abrasion and increase the scratch resistance of the layer.

According to Ando et al., the addition of boron to a ZrO_2 monolayer film [or an HfO_2 film] smoothes the surface of the film thus improves abrasion of scratch resistance.

In Ando et al., crystalline ZrO_2 film is used as a "comparative example" in Table 1, not as an example of Ando et al.'s invention. Ando et al.'s motivation of their invention is to find "a thin film, which is excellent [in] scratch resistance, [and] abrasion resistance." According to Ando et al., a crystalline ZrO_2 film fails both of Ando et al.'s scratch and abrasion resistance tests. Ando et al. states:

> "[I]t is believed that by the addition of B to a ZrO_2 film...the surface becomes smooth, whereby the abrasion resistance and the scratching resistance are improved. Further, it is possible to control the refractive index by adjusting the amount of B. Furthermore, as compared with the ZrO_2 film, the internal stress is small, which is advantageous for the adhesion to the substrate (glass, plastics, etc.) or to a primer coating layer on the substrate." (Ando et al. at page 6, lines 23-27).

Thus, the Examiner is in error in not considering the "consisting essentially of "language of Appellants' claims in accordance with In re Herz, 537 F.2d 549, 190 USPQ 461 (CCPA 1976), PPG Industries v. Guardian Industries, 156 F.3d 1351, 48 USPQ2d 1351 (Fed. Cir. 1998) and Atlas Powder v. E.I. DuPont de Nemours & Co., et al., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984).

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Thus, independent claims 14, 15 and 20, all of which require a thin layer material consisting essentially of amorphous hafnium oxide having a density less than 8 gm/cm^3 are both novel and nonobvious.

Claims 15-19 are directly or indirectly dependant on claim 14. Claims 21-23 are directly or indirectly dependant on claim 20. Thus, all of these claims are patentable over Ando et al. for the same reasons above adduced relative to their parent independent claims 15 and 20, respectively, as well as for their own additional limitation.

SUMMARY

The instant specification as well as Ando et al., discuss in detail that adding boron or silicon affects the basic and novel characteristics of the material. As demonstrated above, the Examiner's inflexible insistence that there is not "any evidence to the contrary" that the mixture taught by Ando differs significantly from the present claimed invention is in error.

CONCLUSION

In view of the foregoing, it is respectfully requested that the rejection of the subject application be reversed in all respects.

Respectfully submitted,

Norman P. Soloway
Attorney for Appellants
Reg. No. 24,315

CERTIFICATE OF MAILING

I certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to "MAIL STOP APPEAL BRIEF - PATENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on August 22, 2005 at Tucson, Arizona.

By: Kim Hood

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APPENDIX A

CLAIMS ON APPEAL

Claims 1-13 (cancelled)

Claim 14: A thin layer material consisting essentially of amorphous hafnium oxide having a density less than 8 gm/cm^3.

Claim 15: A stack of thin layers, said stack including at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 gm/cm^3.

Claim 16: The stack of thin layers as claimed in Claim 15, wherein the stack comprises at least one layer of another material formed on a surface of the amorphous hafnium oxide layer.

Claim 17: The stack of thin layers as claimed in Claim 16, wherein said another material comprises silicon oxide.

Claim 18: The stack of thin layers as claimed in Claim 15, wherein the stack comprises alternate layers of amorphous hafnium oxide having a density less than 8 gm/cm^3 and another material.

Claim 19: The stack of thin layers as claimed in Claim 18, wherein said another material comprises silicon oxide.

Claim 20: An optical component having on at least one surface at least one layer consisting essentially of amorphous hafnium oxide having a density less than 8 gm/cm^3.

Claim 21: The optical component as claimed in Claim 20, and comprising a stack of said thin layers of amorphous hafnium oxide.

Claim 22: The optical component as claimed in Claim 21, wherein the stack comprises alternate layers of said layers of amorphous hafnium oxide having a density less than 8 gm/cm^3 and layers of another material.

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Claim 23: The optical component as claimed in Claim 22, where said another material comprises silicon oxide.

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7590 02/26/2003

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final 3/26/03 6/26/03 (e)
4/26/03 7/26/03
5/26/03 8/26/03
alt.

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/830,380	ANDRE ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

The Examiner acknowledges cancellation of claims 1-10 and non-elected claims 11-13. The claim objection and 112 second paragraph rejection are withdrawn.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,399,435 to Ando et al. in view of USPN 5,670,248 to Lazarov et al. and further in view of USPN 5,623,375 to Floch et al.

Ando teaches an amorphous hafnium oxide thin film (layer) on a glass, or plastic substrate at col. 1, lines 10-15, col. 2, lines 29-40, and col. 3, lines 12-53. Such a thin film may be included in a stack of thin layers, where a metal oxide, such as silicon oxide may be above or below an amorphous hafnium oxide layer (see col. 9, lines 25-65), which may be any optical component such as a mirror, glass, or camera lens at col. 1, lines 10-16.

Ando does not explicitly state the density of an amorphous hafnium oxide layer. Nevertheless, Lazarov teaches material in amorphous form of a metal such as hafnium oxide that may have a density between 3.7 and 4.5 g/cm^3, meeting the Applicant's limitation of a density

less than 8 g/cm^3. See col. 3, lines **22-25**, 30-39, **62-63** and col. 5, line 12. Hence, it would have been obvious to one of ordinary skill in the art to modify the thin layer or stack of layers of Ando to produce a film that may be employed as an antireflective filter, optimizing adsorption of wavelengths for use in various industries as taught by Lazarov at col. 5, lines 10-47.

While Ando does not specifically state amorphous hafnium oxide being in alternate layers, he does state since the substrate may be of any metal oxide, such as silica at col. 9, line 30-31, a stack of layers comprising amorphous hafnium oxide may be on each side of the substrate. In addition, Floch teaches it is well known to produce layers of metal oxides, such as hafnium and silicon in alternating fashion in order to produce optical articles such as mirrors that have a desired wavelength at col. 3, lines 4-25. Therefore it would have been obvious to one of ordinary skill in the art to modify the stack of films of Ando to include alternative layers of amorphous hafnium oxide as taught by Ando to produce a different arrangement and also by Floch to prevent cracks and vary the refractive indices depending upon the desired wavelength or thickness of a stack of thin films or optical component.

All references are analogous art as both references are in the same field of endeavor, such as optical film technology.

Response to Arguments

3. Applicant's arguments filed 12-9-02 have been fully considered but they are not persuasive. Applicant's contention that the Lazarov reference does not teach the density being less than 8 g/cm^3 is not agreed with. In the same paragraph Applicant references (col. 3, lines 5-38), Lazarov explicitly states MO_2 being included as a suitable component in thin film deposition,

explicitly stating "M" including Hafnium (Hf), hence the compound hafnium oxide (HfO_2) is taught having a density less than 8 g/cm^3, which is on at least one glass/optical/plastic substrate. Applicant points to the Lazarov col. 3 paragraph and maintains that this paragraph does not refer to HfO_2 alone but a material with additional metals and so does not refer to HfO_2 with a density of 8 g/cm3 or less. However, Lazarov makes reference to a thin layer of HfO_2 as an additional single layer at col. 5, line 12. Further referencing the total mass density is 3.7-4.5 g/cm3, it would have been obvious to one of ordinary skill in the art to modify only follow that the density for HfO_2 would be less than 8 g/cm3. Also, Ando teaches deposition of thin hafnium oxide on an optical element, glass, or plastic substrate. The combination of the art is reasonable as each piece of art is drawn to films made of HfO_2. Applicant's "essentially consisting of" language does not overcome the rejection. See MPEP 2111.03. Applicant is referring to the film as if it is not deposited on the substrate. The entire specification is drawn to depositing films to a thin stack of films. That the references do not explicitly state the film is alone by itself, does not mean the film cannot exist without the substrate. Applicant does not explain how it is made to stand alone. Applicant only shows how it is made through deposition. The Examiner maintains the position that this is the same as the reference depositing film on a substrate.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

February 23, 2003